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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,597	03/29/2006	Chun-Byung Yang	W014 P01199-US	8955
3017	7590	05/08/2006	EXAMINER	
BARLOW, JOSEPHS & HOLMES, LTD. 101 DYER STREET 5TH FLOOR PROVIDENCE, RI 02903			LU, C CAIXIA	
			ART UNIT	PAPER NUMBER
			1713	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/541,597

Applicant(s)

YANG ET AL.

Examiner

Caixia Lu

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In the 2nd line from the end of the instant claims respectively, compound "chlorobenzene" cannot be used to further define the haloalkane because "chlorobenzene" is not a haloalkane.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Yang et al. (US 6,881,696).

The instant claims are directed an olefin polymerization process in the presence of a solid titanium catalyst procatalyst and an organometallic compound.

Yang teaches catalyst composition comprising a solid titanium catalyst procatalyst and an trialkyl aluminum cocatalyst for olefin polymerization, wherein the

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solid titanium catalyst procatalyst is prepared by the steps of (i) preparing a magnesium solution by contacting-reacting a halogenated magnesium compound with an alcohol, (ii) reacting the magnesium solution with an hydroxyl group containing ester and a alkoxy containing silane, and (iii) produce a solid titanium procatalyst by reacting the magnesium solution with a mixture of a titanium compound and haloalkane compound. It is understood that when the magnesium solution is reacted with titanium compound (such as titanium tetrachloride) and haloalkane mixture in step (iii), the solid titanium procatalyst supported on $MgCl_2$ would be formed which is unavoidably further reacted with the haloalkane in the media. Therefore, Yang's teaching meets the limitation of the instant claims.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al. (US 2004/0030077) in view of Malpass (US 4,657,998) and Gelus (US 5,990,251) independently.

Yang teaches catalyst composition comprising a solid titanium catalyst procatalyst and an trialkyl aluminum cocatalyst for olefin polymerization (paragraphs [0009] and [0010]), wherein the solid titanium catalyst procatalyst is prepared by steps

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(i)-(iv) which is substantially similar to those of the instant claims except in the preactivation step (iv) only an alkylaluminum chloride is used rather than the mixture of alkylaluminum chloride and haloalkane mixture of the instant claims.

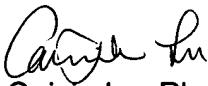
Including a haloalkane in the olefin polymerization in the presence of a Ziegler catalyst to increase catalyst activities and molecular weight distribution of the polyolefin are well known practice in the art and such are disclosed in prior art such as Malpass (col. 2, lines 49-59) and Gelus (col. 1, lines 33-45).

Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ the teaching of Malpass and Gelus by introduce the haloalkane to Yang's catalyst system in order to provide a catalyst with increased activity and an olefin polymer with broader molecular weight distribution and in the absence of any showing criticality and unexpected results.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (571) 272-1106. The examiner can normally be reached from 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful and the matter is urgent, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1700.


Caixia Lu, Ph. D.
Primary Examiner